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Inbreeding in the Semsa of Semkhor Village in North Cachar Hills District, Assam

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Abstract : The Semsa are a culturally isolated population, governed by the rule of double descent system and village endogamy. In the present paper the types and incidences of consanguineous marriage and the coefficients of inbreeding have been reported. It is observed that due to demographic compulsion, consanguineous marriages are taking place in this population. However, such marriages do not violate the rule of double descent system.

INTRODUCTION

Inbreeding may be considered as one of the important aspects of population genetics. It is theoretically believed that inbreeding increases the frequency of homozygotes in the "inbred line over that expected in random mating" (Spuhler 1973). In fact, inbreeding, or consanguineous marriage, is one of the important types of departure from random mating (which is one of the basic assumptions of Hardy-Weinberg equilibrium). The incidence of consanguineous marriages has been reported from various parts of India (Roychoudhury 1976), but there are only a few studies reported for populations in the north-eastern region of the country (Deka 1979; Barua 1986, Rizvi 1986; Rizvi and Buzarbarua 1991). In the present study, an attempt has been made to show the frequency of consanguineous marriages among the Semsa of Semkhor village in the North Cachar Hills District of Assam.

The Semsa are an off-shoot of the Dimasa. They are restricted in only one village known as Semkhor. Danda and Ghatak (1985) are of the opinion that the Semsa have been maintaining their cultural isolation for more than two hundred years, but they are still having most of the cultural traits, including the language, of the Dimasa. They have further observed that the marriage rule among the Semsa is strictly guided by the principle of double descent system, i.e. a man is not allowed to take a bride either from his own patri-clan or from his matri-clan. So far only one case of violation to this rule has been brought to our notice during the field work, however, that marriage was subsequently dissolved and the couple got separated. It is also reported that the Semsa strictly follow the rule of village endogamy. In fact, it is found that the admixture rate in the Semsa is zero (Ghosh and Limbu 1997). However, during the course of the present field work it is found that there were only two instances of violation to this rule of village endogamy. In both cases, those two individuals are no more considered as Semsa and they were compelled to leave the village.

In Semkhor village, exclusively inhabited by the Semsa, there are altogether 838 individuals of which 418 are males and 420 females. However, the detailed demographic structure of the Semsa has already been reported (Ghosh and Limbu 1997).

MATERIALS AND METHODS

For collection of demographic data among the Semsa, a complete enumeration of the village Semkhor has been done. Demographic data were collected through in depth interview with each of the married couples. Details are given in Ghosh and Limbu (1997).

Each marriage was specially investigated with a view to finding out the degree of consanguinity of a couple before their marriage. This information was verified by drawing an extensive genealogy in each case. For calculation of the coefficient of inbreeding, the path coefficient method of Wright (1922) has been followed. To estimate the mean coeffi-

cient of inbreeding, all individuals in this population have been taken into consideration following the method suggested by Stern (1968).

RESULTS AND DISCUSSION

Table 1 shows the frequency of consanguineous marriages among the Semsa. Using the demographic data, it is found that there are altogether 256 marriages, out of which 9 are consanguineous; so, 3.52% of all marriages are consanguineous in the Semsa. Of all these 9 consanguineous marriages, there are one case of marriage between half-first cousins, three cases between first cousins, two cases between second cousins, two cases between second cousins once removed and one case between fourth cousins. The coefficient of inbreeding for each of these categories has been given in Table 1. So, the average coefficient of inbreeding is found to be 0.0296166. The population mean coefficient of inbreeding, calculated according to the method given by Stern (1968), is 0.000318078.

Table 1. *Inbreeding in the Semsa*

Relations	Coefficient of Inbreeding	Frequency of Consonguineous marriages
Half first cousin	0.03125	1
First cousin	0.0625	3
Second cousin	0.0156	2
Second cousin once removed	0.00781	2
Fourth cousin	0.00098	1
Total		9

Total No. of marriages = 256
Total No. of consanguineous marriages = 9 (3.52%)
Average coefficient of inbreeding = 0.0296166
Population Mean coefficient of inbreeding = 0.000318078

As mentioned earlier, the Semsa strictly follow the system of double descent, which generally prevents marriages between close relations. Danda and Ghatak (1985) have reported that cross-cousin marriage is allowed among the Semsa, though it is not being practised. In the present study, through extensive genealogies, covering all individuals, nine cases of consanguineous marriages have been detected. So, the present findings do not corroborate the observation made by Danda and Ghatak (1985).

It is true that in the North-east consanguineous marriage is not generally encouraged among various populations (both tribal and non-tribal), excepting the Muslims. However, in course of a study on the War Khasi, two instances of consanguineous marriage – one case of first-cousin marriage in the Christian War Khasi and one case of second-cousin marriage in the non-Christian War Khasi have been detected (Khongsdier and Ghosh 1996). So, the frequency of cousin marriage in the Christian and non-Christian War Khasi is found to be 0.52% and 0.32%, respectively. In comparison to the War Khasi, this frequency is certainly higher in the Semsa. Barua *et al.* (1994) have reported that nearly 11.24% of all marriages in the Khamti of Assam are consanguineous. Barua (1986) has found that the frequency of consanguineous marriages is much higher in the Dirang Monpa (15.13%) of Djong Dirang and in the Dirang Monpa (28.13%) of Mandlaphudung, Arunachal Pradesh. Deka (1979) has reported that in the Jaintia Hills the frequency of such marriages is as high as 13.77%. However, the highest frequency of consanguineous marriage (48.1%) has been reported by Rizvi (1988) among the Hmar of Manipur. It seems to us that such a high frequency is not generally expected and unusual. So, it needs a thorough re-study. Among the Garia Muslim of Assam, nearly 6.37% of all marriages are consanguineous (Rizvi and Buzarbarua 1991). So, it shows that the incidence of consanguineous marriages is still very low in the Semsa in comparison to some other populations of North-East India, excepting the War Khasi.

Now the question is how such consanguineous marriages are creeping in among the Semsa, in spite of the fact that they have strictly been practising the double descent sys-

tem. The point to remember is that the Semsa are also very strictly following village endogamy. Under such circumstances, the Semsa are gradually being forced to take mates within consanguineous relations (without violating the double descent system) due to demographic compulsion. It is a matter for future to see whether or not the incidence of inbreeding increases in this population, which has been still practising strictly both the double descent system and village endogamy.

Finally, it may be said that the Semsa is not a random mating population, and such non-random mating system, at both consanguineous and village levels, is likely to have some tremendous genetic effects (Neel 1967) on this population.

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